

SEQUENCE LISTING

<110> Gerard Marx
Raphael Gorodetsky

<120> LIPOSOMAL COMPOSITION COMPRISING HAPTOTACTIC PEPTIDES

<130> 2488.014

<140> 10/533,826

<141> 2005-05-03

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<151> 2003-11-03

<150> IL152609

<151> 2002-11-03

<160> 124

<170> PatentIn version 3.3

<210> 1

<211> 180

<212> PRT

<213> Homo sapiens

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Met Lys Ser Ile Tyr Phe Val Ala Gly Leu Phe Val Met Leu Val Gln
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Gly Ser Trp Gln Arg Ser Leu Gln Asp Thr Glu Glu Lys Ser Arg Ser
20 25 30

Phe Ser Ala Ser Gln Ala Asp Pro Leu Ser Asp Pro Asp Gln Met Asn
35 40 45

Glu Asp Lys Arg His Ser Gln Gly Thr Phe Thr Ser Asp Tyr Ser Lys
50 55 60

Tyr Leu Asp Ser Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn
65 70 75 80

Thr Lys Arg Asn Arg Asn Asn Ile Ala Lys Arg His Asp Glu Phe Glu
85 90 95

Arg His Ala Glu Gly Thr Phe Thr Ser Asp Val Ser Ser Tyr Leu Glu

100	105	110
Gly Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu Val Lys Gly Arg Gly		
115	120	125
Arg Arg Asp Phe Pro Glu Glu Val Ala Ile Val Glu Glu Leu Gly Arg		
130	135	140
Arg His Ala Asp Gly Ser Phe Ser Asp Glu Met Asn Thr Ile Leu Asp		
145	150	155
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Asn Leu Ala Ala Arg Asp Phe Ile Asn Trp Leu Ile Gln Thr Lys Ile		
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Thr Asp Arg Lys		
180		

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 ctcagtgatc ctgatcagat gaacgaggac aagcgccatt cacagggcac attcaccagt 180
 gactacagca agtatctgga ctccaggcgt gccaagatt ttgtgcagtg gttgatgaat 240
 accaagagga acaggaataa cattgccaaa cgtcacgatg aatttgagag acatgctgaa 300
 gggaccttta ccagtgatgt aagttcttat ttggaaggcc aagctgcca ggaattcatt 360
 gcttggtgg tgaaaggccg aggaaggcga gatttcccag aagaggtcgc cattgttgaa 420
 gaacttggcc gcagacatgc tgatggttct ttctctgatg agatgaacac cattcttgat 480
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Met Lys Ser Ile Tyr Phe Val Ala Gly Leu Phe Val Met Leu Val Gln
 1 5 10 15

Gly Ser Trp Gln Arg Ser Leu Gln Asp Thr Glu Glu Lys Ser Arg Ser
 20 25 30

Phe Ser Ala Ser Gln Ala Asp Pro Leu Ser Asp Pro Asp Gln Met Asn
 35 40 45

Glu Asp Lys Arg His Ser Gln Gly Thr Phe Thr Ser Asp Tyr Ser Lys
 50 55 60

Tyr Leu Asp Ser Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn
 65 70 75 80

Thr Lys Arg Asn Arg Asn Asn Ile Ala Lys Arg His Asp Glu Phe Glu
 85 90 95

Arg His Ala Glu Gly Thr Phe Thr Ser Asp Phe Pro Arg Arg Gly Arg
 100 105 110

His Cys

<210> 4
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 ctcaagtgat ctgatcagat gaacgaggac aagcgccatt cacagggcac attcaccagt 180
 gactacagca agtatctgga ctccaggcgt gcccaagatt ttgtgcagtg gttgatgaat 240
 accaagagga acaggaataa cattgccaaa cgtcacgatg aatttgagag acatgctgaa 300
 gggaccttta ccagtgattt tcccagaaga ggtcgccatt gttgaagaac ttggccgcag 360
 acatgctgat gggtctttct ctgatgagat gaacaccatt cttgataatc ttgccgccag 420
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<210> 5
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<213> Homo sapiens

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1 5 10 15

Ser Ser Tyr Leu Glu Gly Gln Ala Ala Lys Glu Phe Ile Ala Trp Leu
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Val Lys Gly Arg Gly
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<212> DNA
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<210> 7
<211> 23
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<213> Homo sapiens

<400> 7

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1 5 10 15

Pro Arg Arg Gly Arg His Cys
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<210> 8
<211> 22
<212> PRT
<213> Homo sapiens

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His Asp Glu Phe Glu Arg His Ala Glu Gly Thr Phe Thr Ser Asp Phe
1 5 10 15

Pro Arg Arg Gly Arg His
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<210> 9
<211> 21
<212> PRT
<213> Homo sapiens

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1 5 10 15

Pro Arg Arg Gly Arg
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<210> 10
<211> 19
<212> PRT
<213> Homo sapiens

<400> 10

His Asp Glu Phe Glu Arg His Ala Glu Gly Thr Phe Thr Ser Asp Phe
1 5 10 15

Pro Arg Arg

<210> 11
<211> 17
<212> PRT
<213> Homo sapiens

<400> 11

His Ala Glu Gly Thr Phe Thr Ser Asp Phe Pro Arg Arg Gly Arg His
1 5 10 15

Cys

<210> 12
<211> 16
<212> PRT
<213> Homo sapiens

<400> 12

His Ala Glu Gly Thr Phe Thr Ser Asp Phe Pro Arg Arg Gly Arg His
1 5 10 15

<210> 13
<211> 15
<212> PRT
<213> Homo sapiens

<400> 13

His Ala Glu Gly Thr Phe Thr Ser Asp Phe Pro Arg Arg Gly Arg
1 5 10 15

<210> 14
<211> 13
<212> PRT
<213> Homo sapiens

<400> 14

His Ala Glu Gly Thr Phe Thr Ser Asp Phe Pro Arg Arg
1 5 10

<210> 15
<211> 24
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<213> Artificial

<220>
<223> synthetic peptide

<220>
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<222> (24)..(24)
<223> Xaa=amide

<400> 15

His Asp Glu Phe Glu Arg His Ala Glu Gly Thr Phe Thr Ser Asp Phe
1 5 10 15

Pro Arg Arg Gly Arg His Cys Xaa
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<210> 16
<211> 23
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<220>
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<220>
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<222> (23)..(23)
<223> Xaa=amide

<400> 16

His Asp Glu Phe Glu Arg His Ala Glu Gly Thr Phe Thr Ser Asp Phe
1 5 10 15

Pro Arg Arg Gly Arg His Xaa
20

<210> 17
<211> 22
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<220>
<223> synthetic peptide

<220>
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<223> Xaa=amide

<400> 17

His Asp Glu Phe Glu Arg His Ala Glu Gly Thr Phe Thr Ser Asp Phe
1 5 10 15

Pro Arg Arg Gly Arg Xaa
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<210> 18
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<223> Xaa=amide

<400> 18

His Asp Glu Phe Glu Arg His Ala Glu Gly Thr Phe Thr Ser Asp Phe
1 5 10 15

Pro Arg Arg Xaa
20

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<220>
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<220>
<221> MISC_FEATURE
<222> (18)..(18)
<223> Xaa=amide

<400> 19

His Ala Glu Gly Thr Phe Thr Ser Asp Phe Pro Arg Arg Gly Arg His
1 5 10 15

Cys Xaa

<210> 20
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<220>
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<220>
<221> MISC_FEATURE
<222> (17)..(17)
<223> Xaa=amide

<400> 20

His Ala Glu Gly Thr Phe Thr Ser Asp Phe Pro Arg Arg Gly Arg His
1 5 10 15

Xaa

<210> 21
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<222> (16)..(16)
<223> Xaa=amide

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His	Ala	Glu	Gly	Thr	Phe	Thr	Ser	Asp	Phe	Pro	Arg	Arg	Gly	Arg	Xaa
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<222> (14)..(14)
<223> Xaa=amide

<400> 22

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cgccattgt 69

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<211> 66
<212> DNA
<213> Homo sapiens

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cgccat 66

<210> 25
 <211> 63
 <212> DNA
 <213> Homo sapiens

 <400> 25
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 cgc 63

 <210> 26
 <211> 57
 <212> DNA
 <213> Homo sapiens

 <400> 26
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 <210> 27
 <211> 51
 <212> DNA
 <213> Homo sapiens

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 <210> 28
 <211> 48
 <212> DNA
 <213> Homo sapiens

 <400> 28
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 <210> 29
 <211> 45
 <212> DNA
 <213> Homo sapiens

 <400> 29
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 <210> 30
 <211> 39
 <212> DNA
 <213> Homo sapiens

 <400> 30
 catgctgaag ggacctttac cagtgat ttt cccagaaga 39

 <210> 31

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<400>	31	
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	tttcccagaa gaggtcgcca t	21
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<223>	synthetic oligonucleotide	
<400>	33	
	tttcccagaa gaggtcgc	18
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<212>	DNA	
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	tttcccagaa ga	12
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<212>	PRT	
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<223>	synthetic peptide	
<400>	35	

Phe Pro Arg Arg Gly Arg His Cys
1 5

<210> 36
<211> 7
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<220>
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<400> 36

Phe Pro Arg Arg Gly Arg His
1 5

<210> 37
<211> 6
<212> PRT
<213> Artificial

<220>
<223> synthetic peptide

<400> 37

Phe Pro Arg Arg Gly Arg
1 5

<210> 38
<211> 4
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<213> Artificial

<220>
<223> synthetic peptide

<400> 38

Phe Pro Arg Arg
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<210> 39
<211> 37
<212> PRT
<213> Homo sapiens

<400> 39

His Ser Gln Gly Thr Phe Thr Ser Asp Tyr Ser Lys Tyr Leu Asp Ser
1 5 10 15

Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys Arg Asn
 20 25 30

Arg Asn Asn Ile Ala
 35

<210> 40
 <211> 111
 <212> DNA
 <213> Homo sapiens

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 gat tttgtgc agtggttgat gaataccaag aggaacagga ataacattgc c 111

<210> 41
 <211> 62
 <212> PRT
 <213> Homo sapiens

<400> 41

His Ser Gln Gly Thr Phe Thr Ser Asp Tyr Ser Lys Tyr Leu Asp Ser
 1 5 10 15

Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys Arg Asn
 20 25 30

Arg Asn Asn Ile Ala Lys Arg His Asp Glu Phe Glu Arg His Ala Glu
 35 40 45

Gly Thr Phe Thr Ser Asp Phe Pro Arg Arg Gly Arg His Cys
 50 55 60

<210> 42
 <211> 61
 <212> PRT
 <213> Homo sapiens

<400> 42

His Ser Gln Gly Thr Phe Thr Ser Asp Tyr Ser Lys Tyr Leu Asp Ser
 1 5 10 15

Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys Arg Asn
 20 25 30

Arg Asn Asn Ile Ala Lys Arg His Asp Glu Phe Glu Arg His Ala Glu
35 40 45

Gly Thr Phe Thr Ser Asp Phe Pro Arg Arg Gly Arg His
50 55 60

<210> 43
<211> 60
<212> PRT
<213> Homo sapiens

<400> 43

His Ser Gln Gly Thr Phe Thr Ser Asp Tyr Ser Lys Tyr Leu Asp Ser
1 5 10 15

Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys Arg Asn
20 25 30

Arg Asn Asn Ile Ala Lys Arg His Asp Glu Phe Glu Arg His Ala Glu
35 40 45

Gly Thr Phe Thr Ser Asp Phe Pro Arg Arg Gly Arg
50 55 60

<210> 44
<211> 58
<212> PRT
<213> Homo sapiens

<400> 44

His Ser Gln Gly Thr Phe Thr Ser Asp Tyr Ser Lys Tyr Leu Asp Ser
1 5 10 15

Arg Arg Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr Lys Arg Asn
20 25 30

Arg Asn Asn Ile Ala Lys Arg His Asp Glu Phe Glu Arg His Ala Glu
35 40 45

Gly Thr Phe Thr Ser Asp Phe Pro Arg Arg
50 55

<210> 45
<211> 186
<212> DNA

<213> Homo sapiens

<400> 45

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gattttgtgc agtggttgat gaataccaag aggaacagga ataacattgc caaacgtcac 120
gatgaatttg agagacatgc tgaagggacc ttaccagtg attttcccag aagaggtcgc 180
cattgt 186

<210> 46

<211> 183

<212> DNA

<213> Homo sapiens

<400> 46

cattcacagg gcacattcac cagtgactac agcaagtatc tggactccag gcgtgccccaa 60
gattttgtgc agtggttgat gaataccaag aggaacagga ataacattgc caaacgtcac 120
gatgaatttg agagacatgc tgaagggacc ttaccagtg attttcccag aagaggtcgc 180
cat 183

<210> 47

<211> 180

<212> DNA

<213> Homo sapiens

<400> 47

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gattttgtgc agtggttgat gaataccaag aggaacagga ataacattgc caaacgtcac 120
gatgaatttg agagacatgc tgaagggacc ttaccagtg attttcccag aagaggtcgc 180

<210> 48

<211> 174

<212> DNA

<213> Homo sapiens

<400> 48

cattcacagg gcacattcac cagtgactac agcaagtatc tggactccag gcgtgccccaa 60
gattttgtgc agtggttgat gaataccaag aggaacagga ataacattgc caaacgtcac 120
gatgaatttg agagacatgc tgaagggacc ttaccagtg attttcccag aaga 174

<210> 49

<211> 25

<212> PRT

<213> Artificial

<220>

<223> synthetic peptide

<400> 49

Lys Arg His Asp Glu Phe Glu Arg His Ala Glu Gly Thr Phe Thr Ser
1 5 10 15

Asp Phe Pro Arg Arg Gly Arg His Cys
20 25

<210> 50

<211> 24

<212> PRT

<213> Artificial

<220>

<223> synthetic peptide

<400> 50

Lys Arg His Asp Glu Phe Glu Arg His Ala Glu Gly Thr Phe Thr Ser
1 5 10 15

Asp Phe Pro Arg Arg Gly Arg His
20

<210> 51

<211> 23

<212> PRT

<213> Artificial

<220>

<223> synthetic peptide

<400> 51

Lys Arg His Asp Glu Phe Glu Arg His Ala Glu Gly Thr Phe Thr Ser
1 5 10 15

Asp Phe Pro Arg Arg Gly Arg
20

<210> 52

<211> 21

<212> PRT

<213> Artificial

<220>

<223> synthetic peptide

<400> 52

Lys Arg His Asp Glu Phe Glu Arg His Ala Glu Gly Thr Phe Thr Ser
1 5 10 15

Asp Phe Pro Arg Arg
20

<210> 53

<211> 75

<212> DNA

<213> Artificial

<220>

<223> synthetic oligonucleotide

<400> 53

aaacgtcacg atgaatttga gagacatgct gaagggacct ttaccagtga ttttcccaga 60

agaggtcgcc attgt 75

<210> 54

<211> 72

<212> DNA

<213> Artificial

<220>

<223> synthetic oligonucleotide

<400> 54

aaacgtcacg atgaatttga gagacatgct gaagggacct ttaccagtga ttttcccaga 60

agaggtcgcc at 72

<210> 55

<211> 69

<212> DNA

<213> Artificial

<220>

<223> synthetic oligonucleotide

<400> 55

aaacgtcacg atgaatttga gagacatgct gaagggacct ttaccagtga ttttcccaga 60

agaggtcgc 69

<210> 56

<211> 63

<212> DNA

<213> Artificial

<220>
 <223> synthetic oligonucleotide

<400> 56
 aaacgtcacg atgaatttga gagacatgct gaagggacct ttaccagtga ttttcccaga 60
 aga 63

<210> 57
 <211> 1128
 <212> DNA
 <213> Homo sapiens

<400> 57
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 gctggattat ttgtaatgct ggtacaaggc agctggcaac gttcccttca agacacagag 180
 gagaaatcca gatcattctc agcttcccag gcagaccac tcagtgatcc tgatcagatg 240
 aacgaggaca agcgccattc acagggcaca ttcaccagtg actacagcaa gtatctggac 300
 tccaggcgtg cccaagattt tgtgcagtgg ttgatgaata ccaagaggaa caggaataac 360
 attgccaac gtcacgatga atttgagaga catgctgaag ggacctttac cagtgatgta 420
 agttcttatt tgggaaggcca agctgccaag gaattcattg cttggctggg gaaaggccga 480
 ggaaggcgag atttcccaga agaggcgcc attggtgaag aacttggccg cagacatgct 540
 gatggttctt tctctgatga gatgaacacc attcttgata atcttgccgc cagggacttt 600
 ataaactggg tgattcagac caaaatcact gacaggaaat aactatatca ctattcaaga 660
 tcatcttcac aacatcacct gctagccacg tgggatgtt gaaatgttaa gtctgtaaa 720
 tttaagaggt gtattctgag gccacattgc tttgcatgcc aataaataaa ttttctttta 780
 gtgttggtgta gccaaaaatt acaaatggaa taaagtttta tcaaaatatt gctaaaatat 840
 cagctttaaa atatgaaagt gctagattct gttatcttct tcttattttg gatgaagtac 900
 cccaacctgt ttacatttag cgataaaatt attttctat gatataattt gtaaagttaa 960
 attattccga tctgacatat ctgcattata ataataggag aatagaagaa ctggtagcca 1020
 cagtggtgaa attggaaaga gaactttctt cctgaaacct ttgtcttaaa aatactcagc 1080
 tttcaatgta tcaaagatac aattaaataa aattttcaag cttcttta 1128

<210> 58
 <211> 17

<212> PRT
<213> Homo sapiens

<400> 58

His Asp Glu Phe Glu Arg His Ala Glu Gly Thr Phe Thr Ser Asp Phe
1 5 10 15

Pro

<210> 59
<211> 11
<212> PRT
<213> Homo sapiens

<400> 59

His Ala Glu Gly Thr Phe Thr Ser Asp Phe Pro
1 5 10

<210> 60
<211> 18
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<220>
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<220>
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<222> (18)..(18)
<223> Xaa=amide

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1 5 10 15

Pro Xaa

<210> 61
<211> 12
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<220>
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<220>
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 <222> (12)..(12)
 <223> Xaa=amide

<400> 61

His Ala Glu Gly Thr Phe Thr Ser Asp Phe Pro Xaa
 1 5 10

<210> 62
 <211> 51
 <212> DNA
 <213> Homo sapiens

<400> 62
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<210> 63
 <211> 33
 <212> DNA
 <213> Homo sapiens

<400> 63
 catgctgaag ggacctttac cagtgatttt ccc 33

<210> 64
 <211> 17
 <212> PRT
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<220>
 <223> modified GLP-1 splice variant

<400> 64

His Gly Glu Gly Thr Phe Thr Ser Asp Phe Pro Arg Arg Gly Arg His
 1 5 10 15

Cys

<210> 65
 <211> 97
 <212> PRT
 <213> Homo sapiens

<400> 65

Met Val Phe Val Arg Arg Pro Trp Pro Ala Leu Thr Thr Val Leu Leu
 1 5 10 15

Ala Leu Leu Val Cys Leu Gly Ala Leu Val Asp Ala Tyr Pro Ile Lys
20 25 30

Pro Glu Ala Pro Gly Glu Asp Ala Ser Pro Glu Glu Leu Asn Arg Tyr
35 40 45

Tyr Ala Ser Leu Arg His Tyr Leu Asn Leu Val Thr Arg Gln Arg Tyr
50 55 60

Gly Lys Arg Asp Gly Pro Asp Thr Leu Leu Ser Lys Thr Phe Phe Pro
65 70 75 80

Asp Gly Glu Asp Arg Pro Val Arg Ser Arg Ser Glu Gly Pro Asp Leu
85 90 95

Trp

<210> 66
<211> 36
<212> PRT
<213> Homo sapiens

<400> 66

Tyr Pro Ile Lys Pro Glu Ala Pro Gly Glu Asp Ala Ser Pro Glu Glu
1 5 10 15

Leu Asn Arg Tyr Tyr Ala Ser Leu Arg His Tyr Leu Asn Leu Val Thr
20 25 30

Arg Gln Arg Tyr
35

<210> 67
<211> 34
<212> PRT
<213> Homo sapiens

<400> 67

Ile Lys Pro Glu Ala Pro Gly Glu Asp Ala Ser Pro Glu Glu Leu Asn
1 5 10 15

Arg Tyr Tyr Ala Ser Leu Arg His Tyr Leu Asn Leu Val Thr Arg Gln
20 25 30

Arg Tyr

<210> 68
<211> 33
<212> PRT
<213> Homo sapiens

<400> 68

Met Ala Thr Val Leu Leu Ala Leu Leu Val Tyr Leu Gly Ala Leu Val
1 5 10 15

Asp Ala Tyr Pro Ile Lys Pro Glu Ala Pro Gly Glu Asp Ala Phe Leu
20 25 30

Gly

<210> 69
<211> 15
<212> PRT
<213> Homo sapiens

<400> 69

Tyr Pro Ile Lys Pro Glu Ala Pro Gly Glu Asp Ala Phe Leu Gly
1 5 10 15

<210> 70
<211> 53
<212> PRT
<213> Homo sapiens

<400> 70

Met Ala Thr Val Leu Leu Ala Leu Leu Val Tyr Leu Gly Ala Leu Val
1 5 10 15

Asp Ala Tyr Pro Ile Lys Pro Glu Ala Pro Gly Glu Asp Ala Phe Leu
20 25 30

Gly Glu Leu Ser Arg Cys Tyr Ala Tyr Pro Arg His Tyr Leu Ile Leu
35 40 45

Val Thr Gln Pro Ser
50

<210> 71
 <211> 35
 <212> PRT
 <213> Homo sapiens

<400> 71

Tyr Pro Ile Lys Pro Glu Ala Pro Gly Glu Asp Ala Phe Leu Gly Glu
 1 5 10 15

Leu Ser Arg Cys Tyr Ala Tyr Pro Arg His Tyr Leu Ile Leu Val Thr
 20 25 30

Gln Pro Ser
 35

<210> 72
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 <212> PRT
 <213> Homo sapiens

<400> 72

Ile Lys Pro Glu Ala Pro Gly Glu Asp Ala Phe Leu Gly Glu Leu Ser
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Arg Cys Tyr Ala Tyr Pro Arg His Tyr Leu Ile Leu Val Thr Gln Pro
 20 25 30

Ser

<210> 73
 <211> 70
 <212> PRT
 <213> Homo sapiens

<400> 73

Met Val Phe Val Arg Arg Pro Trp Pro Ala Leu Thr Thr Val Leu Leu
 1 5 10 15

Ala Leu Leu Val Cys Leu Gly Ala Leu Val Asp Ala Tyr Pro Ile Lys
 20 25 30

Pro Glu Ala Pro Gly Glu Asp Ala Ser Pro Glu Glu Leu Asn Arg Tyr
 35 40 45

Tyr Ala Ser Leu Arg His Tyr Leu Asn Leu Val Thr Arg Gln Arg Ser
50 55 60

Glu Gly Pro Asp Leu Trp
65 70

<210> 74
<211> 42
<212> PRT
<213> Homo sapiens

<400> 74

Tyr Pro Ile Lys Pro Glu Ala Pro Gly Glu Asp Ala Ser Pro Glu Glu
1 5 10 15

Leu Asn Arg Tyr Tyr Ala Ser Leu Arg His Tyr Leu Asn Leu Val Thr
20 25 30

Arg Gln Arg Ser Glu Gly Pro Asp Leu Trp
35 40

<210> 75
<211> 40
<212> PRT
<213> Homo sapiens

<400> 75

Ile Lys Pro Glu Ala Pro Gly Glu Asp Ala Ser Pro Glu Glu Leu Asn
1 5 10 15

Arg Tyr Tyr Ala Ser Leu Arg His Tyr Leu Asn Leu Val Thr Arg Gln
20 25 30

Arg Ser Glu Gly Pro Asp Leu Trp
35 40

<210> 76
<211> 582
<212> DNA
<213> Homo sapiens

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<210> 77
 <211> 294
 <212> DNA
 <213> Homo sapiens

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<210> 78
 <211> 840
 <212> DNA
 <213> Homo sapiens

<400> 78	
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ccctacagcc ccgctccacc gggggcgctg ctagatctga ccgcgccccg ccaggccccg	360
ccctcaggta tgggaaacta ggccgcccag tcgcgcgcct ctccaaaacg ttcttcccag	420
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<210> 79
 <211> 102
 <212> DNA
 <213> Homo sapiens

<400> 79	
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atcaaaccgg aggtccccg cgaagacgcc ttctgggggt ag	102

<210> 80
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 <212> DNA
 <213> Homo sapiens

<400> 80	
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tcgtctacct gggggcgctg gtcgacgcct accccatcaa acccgaggct cccggcgaag	180
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<210> 81
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 <212> DNA
 <213> Homo sapiens

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<210> 82
 <211> 501
 <212> DNA
 <213> Homo sapiens

<400> 82
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 gtcccaaaat aaagagcaaa t 501

<210> 83
 <211> 213
 <212> DNA
 <213> Homo sapiens

<400> 83
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<210> 84
 <211> 550

<212> DNA
 <213> Homo sapiens

<400> 84
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<210> 85
 <211> 469
 <212> DNA
 <213> Homo sapiens

<400> 85
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<210> 86
 <211> 97
 <212> PRT
 <213> Homo sapiens

<400> 86
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Ser Leu Leu Val Cys Leu Gly Ala Leu Ala Glu Ala Tyr Pro Ser Lys
20 25 30

Pro Asp Asn Pro Gly Glu Asp Ala Pro Ala Glu Asp Met Ala Arg Tyr
35 40 45

Tyr Ser Ala Leu Arg His Tyr Ile Asn Leu Ile Thr Arg Gln Arg Tyr
50 55 60

Gly Lys Arg Ser Ser Pro Glu Thr Leu Ile Ser Asp Leu Leu Met Arg
65 70 75 80

Glu Ser Thr Glu Asn Val Pro Arg Thr Arg Leu Glu Asp Pro Ala Met
85 90 95

Trp

<210> 87
<211> 70
<212> PRT
<213> Homo sapiens

<400> 87

Met Leu Gly Asn Lys Arg Leu Gly Leu Ser Gly Leu Thr Leu Ala Leu
1 5 10 15

Ser Leu Leu Val Cys Leu Gly Ala Leu Ala Glu Ala Tyr Pro Ser Lys
20 25 30

Pro Asp Asn Pro Gly Glu Asp Ala Pro Ala Glu Asp Met Ala Arg Tyr
35 40 45

Tyr Ser Ala Leu Arg His Tyr Ile Asn Leu Ile Thr Arg Gln Arg Leu
50 55 60

Glu Asp Pro Ala Met Trp
65 70

<210> 88
<211> 411
<212> DNA
<213> Homo sapiens

<400> 88
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<210> 89
<211> 339
<212> DNA
<213> Homo sapiens

<400> 89
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<210> 90
<211> 95
<212> PRT
<213> Homo sapiens

<400> 90

Met Ala Ala Ala Arg Leu Cys Leu Ser Leu Leu Leu Leu Ser Thr Cys
1 5 10 15

Val Ala Leu Leu Leu Gln Pro Leu Leu Gly Ala Gln Gly Ala Pro Leu
20 25 30

Glu Pro Val Tyr Pro Gly Asp Asn Ala Thr Pro Glu Gln Met Ala Gln
35 40 45

Tyr Ala Ala Asp Leu Arg Arg Tyr Ile Asn Met Leu Thr Arg Pro Arg
50 55 60

Tyr Gly Lys Arg His Lys Glu Asp Thr Leu Ala Phe Ser Glu Trp Gly
65 70 75 80

Ser Pro His Ala Ala Val Pro Arg Glu Leu Ser Pro Leu Asp Leu
85 90 95

<210> 91
<211> 71
<212> PRT
<213> Homo sapiens

<400> 91

Met Ala Ala Ala Arg Leu Cys Leu Ser Leu Leu Leu Leu Ser Thr Cys
1 5 10 15

Val Ala Leu Leu Leu Gln Pro Leu Leu Gly Ala Gln Gly Ala Pro Leu
20 25 30

Glu Pro Val Tyr Pro Gly Asp Asn Ala Thr Pro Glu Gln Met Ala Gln
35 40 45

Tyr Ala Ala Asp Leu Arg Arg Tyr Ile Asn Met Leu Thr Arg Pro Arg
50 55 60

Glu Leu Ser Pro Leu Asp Leu
65 70

<210> 92
<211> 1462
<212> DNA
<213> Homo sapiens

<400> 92

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<210> 93
<211> 89
<212> PRT
<213> Homo sapiens

<400> 93

Met Gly Ile Leu Lys Leu Gln Val Phe Leu Ile Val Leu Ser Val Ala
1 5 10 15

Leu Asn His Leu Lys Ala Thr Pro Ile Glu Ser His Gln Val Glu Lys
20 25 30

Arg Lys Cys Asn Thr Ala Thr Cys Ala Thr Gln Arg Leu Ala Asn Phe
35 40 45

Leu Val His Ser Ser Asn Asn Phe Gly Ala Ile Leu Ser Ser Thr Asn

50

55

60

Val Gly Ser Asn Thr Tyr Gly Lys Arg Asn Ala Val Glu Val Leu Lys
 65 70 75 80

Arg Glu Pro Leu Asn Tyr Leu Pro Leu
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<210> 94
 <211> 2048
 <212> DNA
 <213> Homo sapiens

<400> 94
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aaaagtga 2048

<210> 95
<211> 103
<212> PRT
<213> Homo sapiens

<400> 95

Met Gly Ile Leu Lys Leu Gln Val Phe Leu Ile Val Leu Ser Val Ala
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Leu Asn His Leu Lys Ala Thr Pro Ile Glu Arg Cys Leu Asp Gln Ile
20 25 30

Pro Ile Phe Thr Val Phe Gln Glu Asn His Gln Val Glu Lys Arg Lys
35 40 45

Cys Asn Thr Ala Thr Cys Ala Thr Gln Arg Leu Ala Asn Phe Leu Val
50 55 60

His Ser Ser Asn Asn Phe Gly Ala Ile Leu Ser Ser Thr Asn Val Gly
65 70 75 80

Ser Asn Thr Tyr Gly Lys Arg Asn Ala Val Glu Val Leu Lys Arg Glu
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Pro Leu Asn Tyr Leu Pro Leu
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<210> 96

<211> 2098

<212> DNA

<213> Homo sapiens

<400> 96

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attagtaatt gtaagtaccc ctgataagca aattagtaat tgtcaatacc cctgttaagc    1260
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ggtggtaagt ggtagcggta gtgagtgtat agaggcaggg aaatatattt ataataaatt 2040
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<213> Homo sapiens

<400> 97

Met Gly Ile Leu Lys Leu Gln Val Phe Leu Ile Val Leu Ser Val Ala
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Leu Asn His Leu Lys Ala Thr Pro Ile Glu Arg Gln Glu Trp Ile Ile
20 25 30

Pro Val Leu Ser Arg Asn Ile Leu Leu Glu Leu Arg Gly Ala Lys Pro
35 40 45

Glu His Glu Ala Gly Lys Lys Ser Lys Val Ile Arg Trp Lys Ser Gly
50 55 60

Asn Ala Thr Leu Pro His Val Gln Arg Ser Ala Trp Gln Ile Phe
65 70 75

<210> 98

<211> 15
<212> PRT
<213> Artificial

<220>
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<400> 98

Arg Cys Leu Asp Gln Ile Pro Ile Phe Thr Val Phe Gln Glu Asn
1 5 10 15

<210> 99
<211> 53
<212> PRT
<213> Artificial

<220>
<223> synthetic peptide

<400> 99

Arg Gln Glu Trp Ile Ile Pro Val Leu Ser Arg Asn Ile Leu Leu Glu
1 5 10 15

Leu Arg Gly Ala Lys Pro Glu His Glu Ala Gly Lys Lys Ser Lys Val
20 25 30

Ile Arg Trp Lys Ser Gly Asn Ala Thr Leu Pro His Val Gln Arg Ser
35 40 45

Ala Trp Gln Ile Phe
50

<210> 100
<211> 36
<212> PRT
<213> Homo sapiens

<400> 100

Tyr Pro Ser Lys Pro Asp Asn Pro Gly Glu Asp Ala Pro Ala Glu Asp
1 5 10 15

Met Ala Arg Tyr Tyr Ser Ala Leu Arg His Tyr Ile Asn Leu Ile Thr
20 25 30

Arg Gln Arg Tyr
35

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 <211> 42
 <212> PRT
 <213> Homo sapiens

<400> 101

Tyr Pro Ser Lys Pro Asp Asn Pro Gly Glu Asp Ala Pro Ala Glu Asp
 1 5 10 15

Met Ala Arg Tyr Tyr Ser Ala Leu Arg His Tyr Ile Asn Leu Ile Thr
 20 25 30

Arg Gln Arg Leu Glu Asp Pro Ala Met Trp
 35 40

<210> 102
 <211> 34
 <212> PRT
 <213> Homo sapiens

<400> 102

Ser Lys Pro Asp Asn Pro Gly Glu Asp Ala Pro Ala Glu Asp Met Ala
 1 5 10 15

Arg Tyr Tyr Ser Ala Leu Arg His Tyr Ile Asn Leu Ile Thr Arg Gln
 20 25 30

Arg Tyr

<210> 103
 <211> 40
 <212> PRT
 <213> Homo sapiens

<400> 103

Ser Lys Pro Asp Asn Pro Gly Glu Asp Ala Pro Ala Glu Asp Met Ala
 1 5 10 15

Arg Tyr Tyr Ser Ala Leu Arg His Tyr Ile Asn Leu Ile Thr Arg Gln
 20 25 30

Arg Leu Glu Asp Pro Ala Met Trp
 35 40

<210> 104
<211> 36
<212> PRT
<213> Homo sapiens

<400> 104

Ala Pro Leu Glu Pro Val Tyr Pro Gly Asp Asn Ala Thr Pro Glu Gln
1 5 10 15

Met Ala Gln Tyr Ala Ala Asp Leu Arg Arg Tyr Ile Asn Met Leu Thr
20 25 30

Arg Pro Arg Tyr
35

<210> 105
<211> 42
<212> PRT
<213> Homo sapiens

<400> 105

Ala Pro Leu Glu Pro Val Tyr Pro Gly Asp Asn Ala Thr Pro Glu Gln
1 5 10 15

Met Ala Gln Tyr Ala Ala Asp Leu Arg Arg Tyr Ile Asn Met Leu Thr
20 25 30

Arg Pro Arg Glu Leu Ser Pro Leu Asp Leu
35 40

<210> 106
<211> 34
<212> PRT
<213> Homo sapiens

<400> 106

Leu Glu Pro Val Tyr Pro Gly Asp Asn Ala Thr Pro Glu Gln Met Ala
1 5 10 15

Gln Tyr Ala Ala Asp Leu Arg Arg Tyr Ile Asn Met Leu Thr Arg Pro
20 25 30

Arg Tyr

<210> 107
 <211> 40
 <212> PRT
 <213> Homo sapiens

<400> 107

Leu Glu Pro Val Tyr Pro Gly Asp Asn Ala Thr Pro Glu Gln Met Ala
 1 5 10 15

Gln Tyr Ala Ala Asp Leu Arg Arg Tyr Ile Asn Met Leu Thr Arg Pro
 20 25 30

Arg Glu Leu Ser Pro Leu Asp Leu
 35 40

<210> 108
 <211> 777
 <212> DNA
 <213> Gallus gallus

<400> 108

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 aagctacatc tattgagaaa ttattatctg tgactgaoga tctctctgat gggacttcca 240
 agaggcaaga atggatactg cccataatgt cacagaatac actctcagga cttagtggag 300
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 cagctgggct ttcaagcaga aaatcccaaa acaatacaaa gctttagggt gttttaatga 540
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 ttattacttg tacagtctta acagtgtcct tgttttcttt gtgtacgtgt atgtaattta 660
 tgcattgtata acatcatgca taggctatcg tttcaaattc tttaagaact ccagaagtct 720
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 <213> Artificial

<220>
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 <400> 109

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<210> 110
 <211> 16
 <212> PRT
 <213> Artificial

<220>
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 <400> 110

Arg Gln Arg Ser Glu Gly Gly Cys Gly Gly Arg Gln Arg Ser Glu Gly
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<210> 111
 <211> 711
 <212> DNA
 <213> Homo sapiens

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 gcaaattcca caggaaaaga aaataatgca tttatgcatt acatgtagga acaatatatta 600
 aaataacgaa ccattcttc tcgttcttc caaacacccc ttctggccac agtgataagt 660
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<210> 112
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<212> PRT
<213> Artificial

<220>
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<400> 112

Ser Glu Gly Pro Asp Leu Trp
1 5

<210> 113
<211> 7
<212> PRT
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<220>
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<400> 113

Leu Glu Asp Pro Ala Met Trp
1 5

<210> 114
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<212> PRT
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<220>
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<400> 114

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<210> 115
<211> 1069
<212> DNA
<213> Homo sapiens

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 <212> DNA
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ggccgaggcg	taccctcca
180	
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gacgcaccag	cggaggacat
ggccagatac	tactcggcgc
240	
tgcgacacta	catcaacctc
atcaccaggc	agagatatgg
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tgggaaatga	gacttgctct
ctggcctttt	cctattttca
420	
gcccatattt	catcgtgtaa
aacgagaatc	cacccatcct
accaatgcat	gcagccactg
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<210> 117
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 <212> DNA
 <213> Homo sapiens

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 tctcctacga ctccatgagc agcgccagcc cagctctccc ctctgcaccc ttggctctgg 360
 ccaaagcttg ctccctgctc ccacacaggg tcaataaagc aagtcaaagc caaaaaaaaa 420
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 480
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaa 527

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 <213> Artificial

<220>
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<400> 118
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<210> 119
 <211> 18
 <212> DNA
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<220>
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<400> 119
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<210> 120
 <211> 15
 <212> DNA
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<220>
 <223> synthetic oligonucleotide primer

<400> 120
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<210> 121
 <211> 24
 <212> DNA
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 <220>
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 <400> 121
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 <210> 122
 <211> 18
 <212> DNA
 <213> Artificial

 <220>
 <223> synthetic oligonucleotide primer

 <400> 122
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 <210> 123
 <211> 17
 <212> DNA
 <213> Artificial

 <220>
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 <400> 123
 gctggcgctg ctcatgg 17

 <210> 124
 <211> 719
 <212> DNA
 <213> Homo sapiens

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